IN THE CLAIMS:

1   Claims 1-3 (Canceled)

1   4. (Previously presented) A method executed in a computer system having at
2 least one processor for determining axial rotation of a pelvis from a single
3 fluoroscopic image, comprising

4   A. receiving a fluoroscopic image of said pelvis in the near AP direction;

5   B. defining first and second landmarks of said pelvis on said image, said
6 landmarks separated from each other in at least an anterior-posterior direction;

7   C. determining the transaxial displacement of said landmarks on said image;
8 and

9   D. using said displacement to determine the axial rotation of said pelvis with
10 respect to the plane of said fluoroscopic image.

1   5. (Original) A method according to claim 4 in which said first landmark
2 comprises the image point of the pubic symphysis.

1   6. (Original) A method according to claim 5 in which said second landmark
2 comprises the midpoint of a line between the image points of the left and right
3 sacroiliac joints.

1   7. (Original) A method according to claim 4 in which said displacement is
2 normalized with respect to the separation between a further pair of landmarks.

1   8. (Original) A method according to claim 7 in which said further pair of
2 landmarks comprises the left and right teardrops.

9. (Previously presented) A method executed in a computer system having at least one processor for determining the transaxial rotation of a pelvis from a single fluoroscopic image, comprising

A. receiving a fluoroscopic image of said pelvis in the near AP direction;

B. defining first and second landmarks of said pelvis on said image, said landmarks separated from each other in at least an anterior-posterior direction;

C. determining the axial displacement of said landmarks on said image; and

D. using said displacement as a measure of the transaxial rotation of said pelvis with respect to the plane of said fluoroscopic image.

10. (Original) A method according to claim 9 in which said first landmark comprises the image point of the pubic symphysis.

11. (Original) A method according to claim 10 in which said second landmark comprises the midpoint of a line between the image points of the left and right sacroiliac joints.

12. (Original) A method according to claim 11 in which said displacement is normalized with respect to the separation between a further pair of landmarks.

13. (Original) A method according to claim 12 in which said further pair of landmarks comprises the left and right teardrops.

14. (Original) A method according to claim 12 in which the transaxial rotation is taken as a function of the relation of said displacement to the corresponding displacements on the fluoroscopic images of a sample of pelvises taken at known orientation to the fluoroscopic image plane.

15. (Previously presented) A computer-readable medium comprising instructions executable by at least one processing entity for determining a patient-

specific pelvic coordinate system from a single near AP intra-operative image of the patient, the medium comprising:

    instructions to receive a single intra-operative fluoroscopic image of the patient's pelvis in the near AP direction;

    instructions to define first and second landmarks of said pelvis on said image, said landmarks being separated from each other in at least an anterior-posterior direction;

    instructions to determine the transaxial displacement of said landmarks on said image;

    instructions to determine the axial displacement of said landmarks on said image;

    instructions to calculate an axial rotation of said pelvis with respect to the plane of said image based on the transaxial displacement, and

    instructions to calculate a transaxial rotation of said pelvis with the respect to the plane of said image based on the axial displacement.

    16. (Previously presented) The computer-readable medium of claim 15 wherein said first landmark comprises the image point of the pubic symphysis.

    17. (Previously presented) The computer-readable medium of claim 15 wherein the second landmark comprises the midpoint of a line between corresponding points on said image of the left and right sacroiliac joints.

    18. (Previously presented) The computer-readable medium of claim 15 wherein said displacements are normalized with respect to the separation between a further pair of landmarks on the pelvis.

    19. (Previously presented) The computer-readable medium of claim 18 wherein said further pair of landmarks comprises the left and right teardrops.

20. (Previously presented) The computer-readable medium of claim 4 wherein the transaxial rotation is taken as a function of the relation of said axial displacement to the corresponding displacements of electronic images of a sample of pelvises taken at a known orientation to said fluoroscopic image.

21. (Previously presented) The computer-readable medium of claim 15 wherein the axial displacement is k, and the transaxial rotation is a function of:

$v-v_o$

where v_o is the axial displacement distance corresponding to a non-rotated pelvis.